REMARKS/ARGUMENTS

Claims 1-19 remain in the application. Claims 1, 10 and 12 have been amended to clarify the context of the invention.

Claim rejections - 35 USC § 102

Claims 1, 3, 4, 8, 10, 12, 17 and 19 were rejected under 35 USC § 102(e) as being anticipated by Alhamad (US 6,349,774). The Examiner alleges that Alhamad discloses a device having a maximum void size which limits flame propagation.

Alhamad does not rely on void size to limit the propagation of the flame - the voids sizes taught are simply too large. At column 6, line 36:

> "The length of each slit 11 is in the range between ***1 and 2.5 cm***, and the unslit sections or gaps 12 between each slit are in the range between 2 to 6 mm long. The distance 14 separating lines of slits may be varied but is ordinarily in the range between 1 and 4 mm, so that the thickness of the resulting expanded metal net is normally in the range between 2 and 8 mm. The preferred value for distance 14 is 2 to 4 mm." (emphasis added).

Rather, Alhamad discloses a device which excludes oxygen and fuel from the fire (as best it can), attempts to limit heat propagation which can tend to cause fire to spread, and most importantly, presents a high specific internal surface area. At column 7, line 51:

> "With the modules 1 in place at the upper and lower ends of the well, as shown in FIGS. 8 and 9, the annular space 8 is protected against ingress of oxygen (from the atmosphere) and hydrocarbon vapors (from the production zone), and thus the elements which contribute to corrosion, fire and explosion are not available in the annular space. This protection is accomplished with modules or collars 1 which are made from very lightweight, inexpensive, and readily manufactured and serviced materials-namely, the slitted and expanded metal foil. Moreover, the unique open network structure of the collars of the present invention provides an additional benefit in the form of ***a very high specific internal surface area, which enables the collars to operate effectively as flame arresters*** without interfering with their ability to prevent the ingress of oxygen and hydrocarbon vapors. Collars such as those illustrated herein have specific internal surface areas in the neighborhood of 320 ft^2 per ft^3, ***which qualifies them as flame arresters*** for substantially all classes of fuels or flammable vapors. " (emphasis added).

Further, Alhamad also discloses that another principal condition which leads to a fire in the surface of a burning material is the heat of the fire, and thus discloses that

"the heat conductivity of the metal net reduces the heat of the fire and thus reduces the amount of vapour produced". (column 2, lines 41-43). As the heat conductivity of the metal net is affected by its total surface area, the expandable metal foil sheet is stretched thereby increasing its total surface area by approximately a tenfold factor (column 2, lines 61-62).

Thus, although Alhamad discloses a device which contains slits, the reference teaches that it is the interrelation of many factors to arrest flames. At column 6, line 47, ***at least six*** factors which interplay to arrest flames;

> "By controlling the extent of stretching of the slit foil [1], as well as the dimensions of the slits 11 [2], the gaps between slits [3], and the spaces 14 between lines of slits [4], it is possible to take advantage of the strength, hardness and other properties [5] of the alloy foil to produce expanded nets which may be formed into modules or collars having exceptionally high specific internal surface areas [6] (e.g., in the range of 250 to 325 ft.sup.2 per ft.sup.3) and above; exceptionally high porosity (e.g., in the range of 80 to 99%) and a volume resistivity of <50 ohm-m. ***These characteristics make the expanded metal net particularly useful in terms of flame-arresting and anti-explosion properties***, as will be explained later in greater detail." (emphasis and parenthetic numbers added)

Alhamad does not disclose all limitations of the present claims, because the claims are not merely to "a fire retarding device having voids".

Accordingly, the Applicant believes that Examiner has not satisfied the requirements of 35 U.S.C. § 102. Nonetheless, the applicant has amended the claims to further clarify the invention. Withdrawal of the rejection under 35 U.S.C. § 102(e) is respectfully requested.

Claim rejections 35 U.S.C. § 103

Claim 16 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Alhamad. In view of the comments above, the Applicant believes that the subject matter of claim 16 is neither taught nor suggested by Alhamad. Reconsideration is respectfully requested.

Claims 2, 7, 8, 11, 13, 14 and 18 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Alhamad in view of Gooliak (US 2003/0060107). Further, claims 5 and 6 were rejected as being obvious over Alhamad in view of Nevin (GB 2,266,051). In view of the dependence of claims 2, 5, 6, 7 and 8 on claim 1, of claim 11 on claim 10, and of claims 13, 14 and 18 on claim 12, the subject matter of these dependent claims is also believed allowable. The Examiner has not demonstrated how one skilled in the art would inevitably be lead to adapt the expanded-metal net design of Alhamad, into the blanket formats of Gooliak or Nevin. In view of the lengthy discussion of configuration and internal surface area, etc. in

Alhamad, Applicant respectfully believes that the structure of Alhamad instead teaches away from the 2-D structures of the other references. The Examiner has not indicated where the skilled person would be taught to modify the relevant structures to provide the present invention, and thus the rejection is also believed to be improper. Reconsideration of their rejection is therefore respectfully requested.

It is submitted therefore that claims 1-19 are now in condition for allowance. Reconsideration of the Examiner's rejections is respectfully requested.

In the event that there are any questions concerning this amendment or the application in general, the Examiner is respectfully urged to telephone the undersigned so that prosecution of this application may be expedited.

Respectfully,

November 15, 2004
Date

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